

12 14 16 10

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
17		18
17		18
17		18

FIG. 1A

22 24 26 28

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
21			
21			
21			
21			

20

FIG. 1B

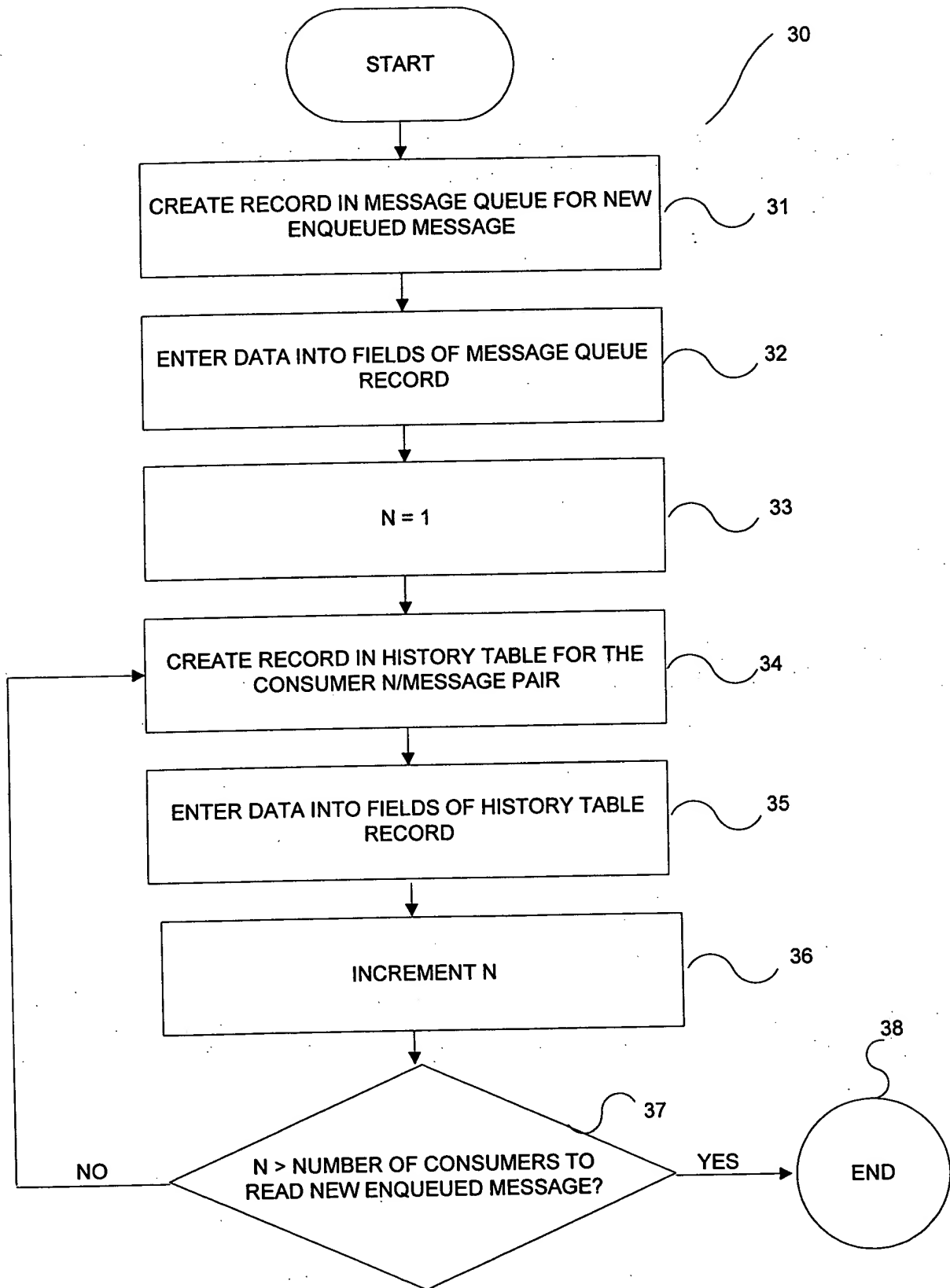


FIG. 2

40

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES

FIG. 3A-1

42

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG

FIG. 3A-2

46

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
47	MSG-X 48	50

44

FIG. 3B-1

51

55

57

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	54
MSG_X	B	ENQUEUED	56
MSG_X	C	ENQUEUED	58

52

FIG. 3B-2

44

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
	MSG-X	

FIG. 3C-1

62

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	
MSG_X	B	READ	
MSG_X	C	ENQUEUED	

61

FIG. 3C-2

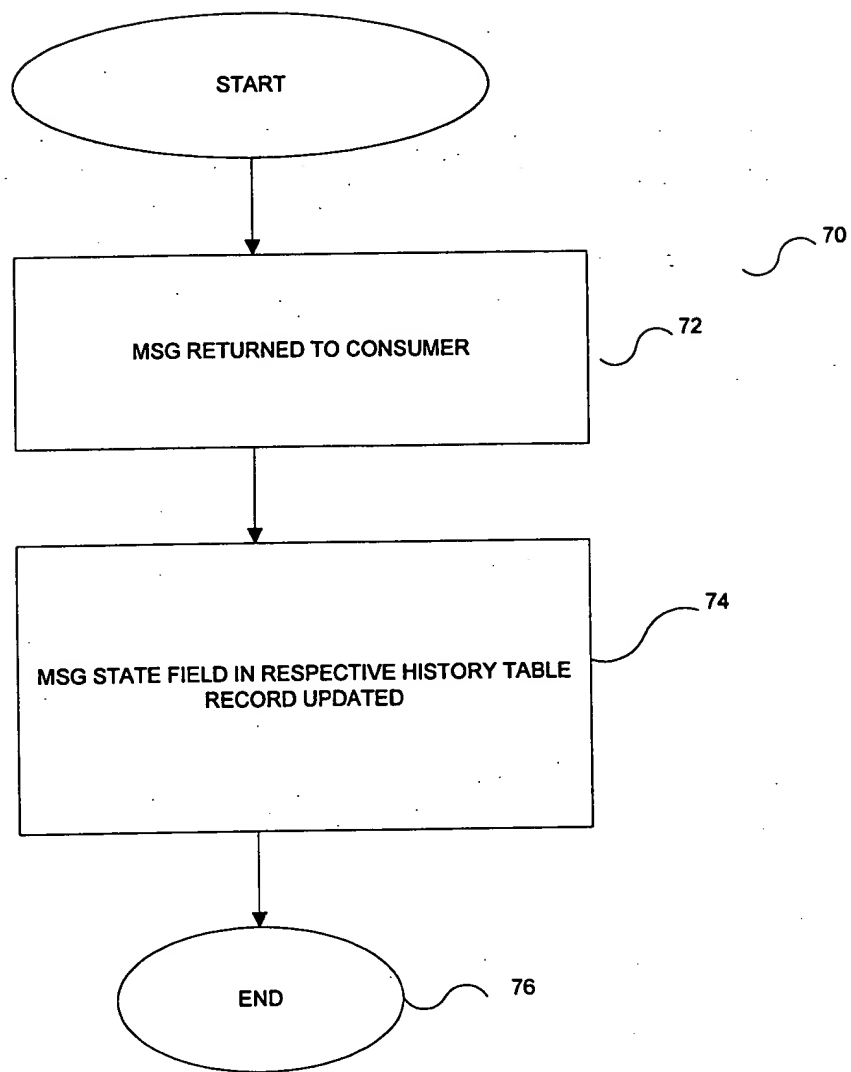


FIG. 4

150

152	153	154	155
MESSAGE ID	CONSUMER ID	ENQUEUE TIME	PRIORITY
156			
156			

FIG. 5

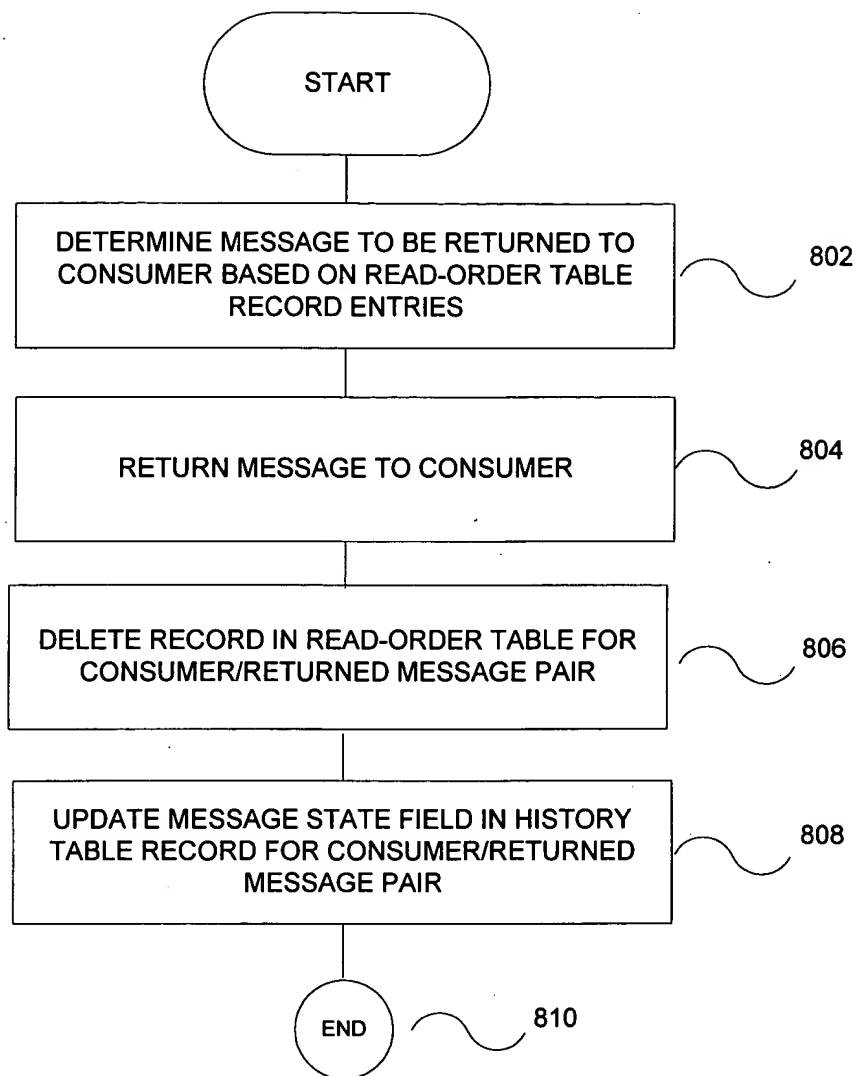


FIG. 6

525

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
530	MSG_X	532
	MSG_Y	

FIG. 7A-1

550 558 559

MESSAGE ID	CONSUMER ID	ENQUEUE TIME
551 MSG_X	A	8:05
552 MSG_X	B	8:05
553 MSG_Y	A	9:10
554 MSG_Y	B	9:10
555 MSG_Y	C	9:10
556 MSG_Y	D	9:10

FIG. 7A-2

575 592

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
580 MSG_X	A	ENQUEUED	581
581 MSG_X	B	ENQUEUED	582
582 MSG_Y	A	ENQUEUED	583
583 MSG_Y	B	ENQUEUED	584
584 MSG_Y	C	ENQUEUED	585
585 MSG_Y	D	ENQUEUED	

FIG. 7A-3

525 530 532

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
530	MSG_X	532
	MSG_Y	

FIG. 7B-1

595

MESSAGE ID	CONSUMER ID	ENQUEUE TIME
MSG_X	A	8:05
MSG_Y	A	9:10
MSG_Y	B	9:10
MSG_Y	C	9:10
MSG_Y	D	9:10

FIG. 7B-2

602 604

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	
MSG_X	B	READ	
MSG_Y	A	ENQUEUED	
MSG_Y	B	ENQUEUED	
MSG_Y	C	ENQUEUED	
MSG_Y	D	ENQUEUED	

FIG. 7B-3

825	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
826	~	MSG_X	~
827	~	MSG_Y	~
828	~	MSG_Z	~

FIG. 8A-1


850		856	852	854
				
	MESSAGE ID	CONSUMER ID	ENQUEUE TIME	PRIORITY
830	MSG_X	A	8:05	2
831	MSG_X	B	8:05	2
832	MSG_Y	A	8:30	1
833	MSG_Y	B	8:30	1
834	MSG_Z	A	9:00	1

FIG. 8A-2

875					846
	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG	
841	MSG_X	A	ENQUEUED	~	
842	MSG_X	B	ENQUEUED	~	
843	MSG_Y	A	ENQUEUED	~	
844	MSG_Y	B	ENQUEUED	~	
845	MSG_Z	A	ENQUEUED	~	

FIG. 8A-3

825	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
826	~	MSG_X	~
827	~	MSG_Y	~
828	~	MSG_Z	~

FIG. 8B-1

860

MESSAGE ID	CONSUMER ID	ENQUEUE TIME	PRIORITY
MSG_X	A	8:05	2
MSG_X	B	8:05	2
MSG_Y	B	8:30	1
MSG_Z	A	9:00	1

FIG. 8B-2

880	884			
	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
	MSG_X	A	ENQUEUED	~
	MSG_X	B	ENQUEUED	~
882	MSG_Y	A	READ	~
	MSG_Y	B	ENQUEUED	~
	MSG_Z	A	ENQUEUED	~

FIG. 8B-3

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
142	MSG_A	144
144	MSG_B	146

125

FIG. 10A-1

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_A	J	READ	129
MSG_A	K	READ	131
MSG_B	W	ENQUEUED	145
MSG_B	X	READ	146
MSG_B	Y	ENQUEUED	147
MSG_B	Z	ENQUEUED	148

127

FIG. 10A-2

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
141	MSG_B	132

137

FIG. 10B-1

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_B	W	ENQUEUED	143
MSG_B	X	READ	133
MSG_B	Y	ENQUEUED	134
MSG_B	Z	ENQUEUED	135

139

FIG. 10B-2

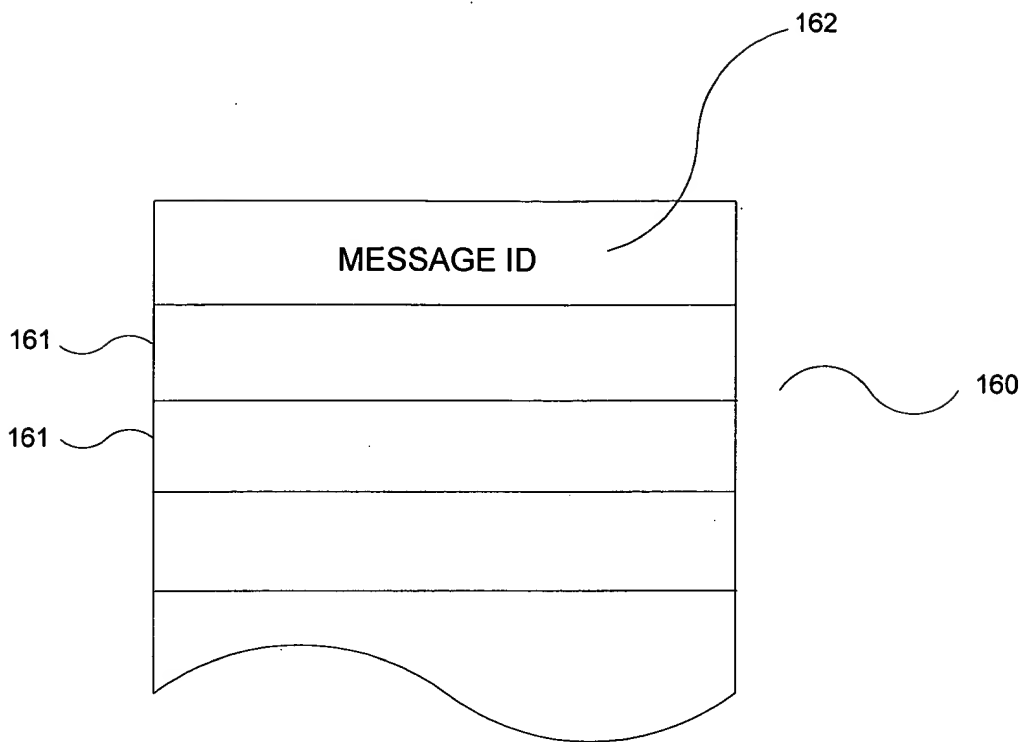


FIG. 11

180

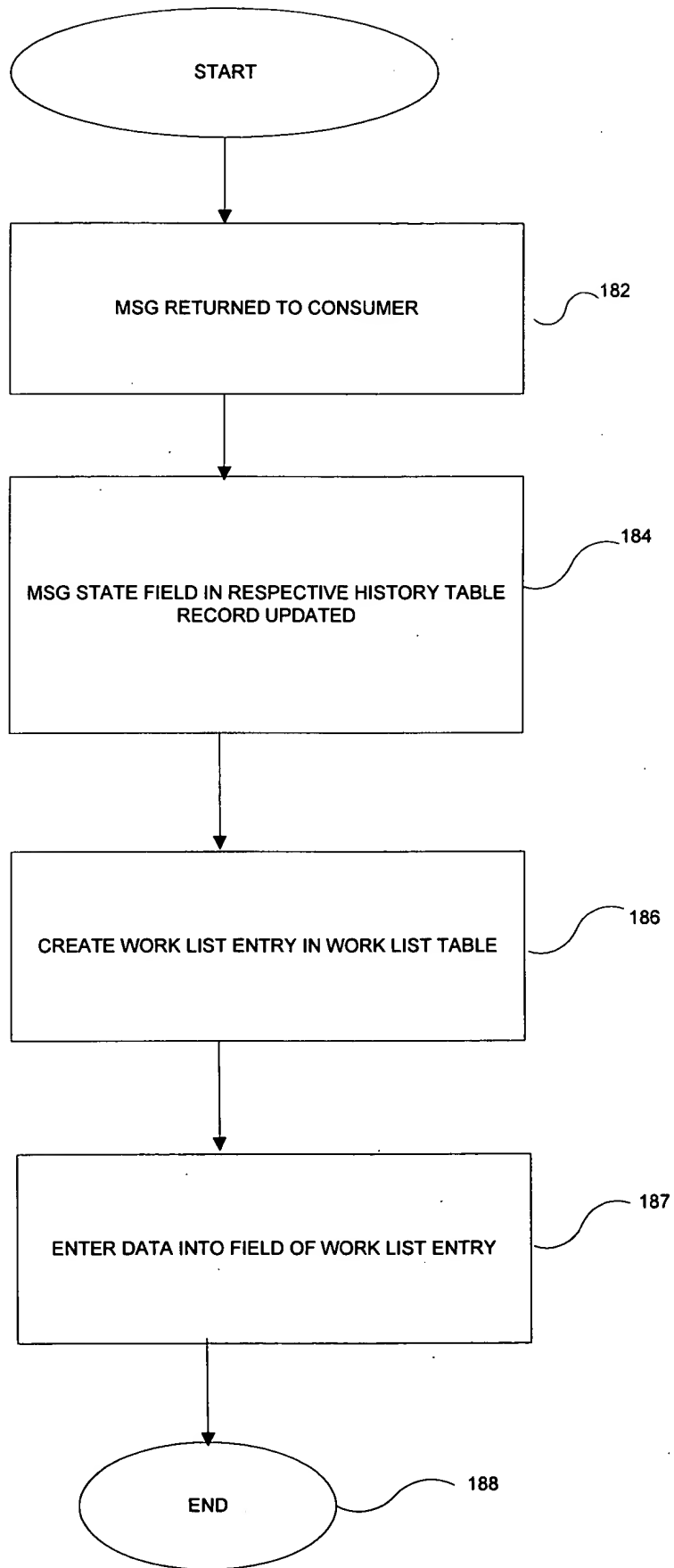


FIG. 12

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
201	MSG_X	203
203	MSG_Y	

FIG. 13A-1

MESSAGE ID
204

FIG. 13A-3

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	206
MSG_X	B	ENQUEUED	208
MSG_Y	A	ENQUEUED	210
MSG_Y	B	ENQUEUED	212
MSG_Y	C	ENQUEUED	214
MSG_Y	D	ENQUEUED	216

FIG. 13A-2

MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
200	MSG_X	
	MSG_Y	

FIG. 13B-1

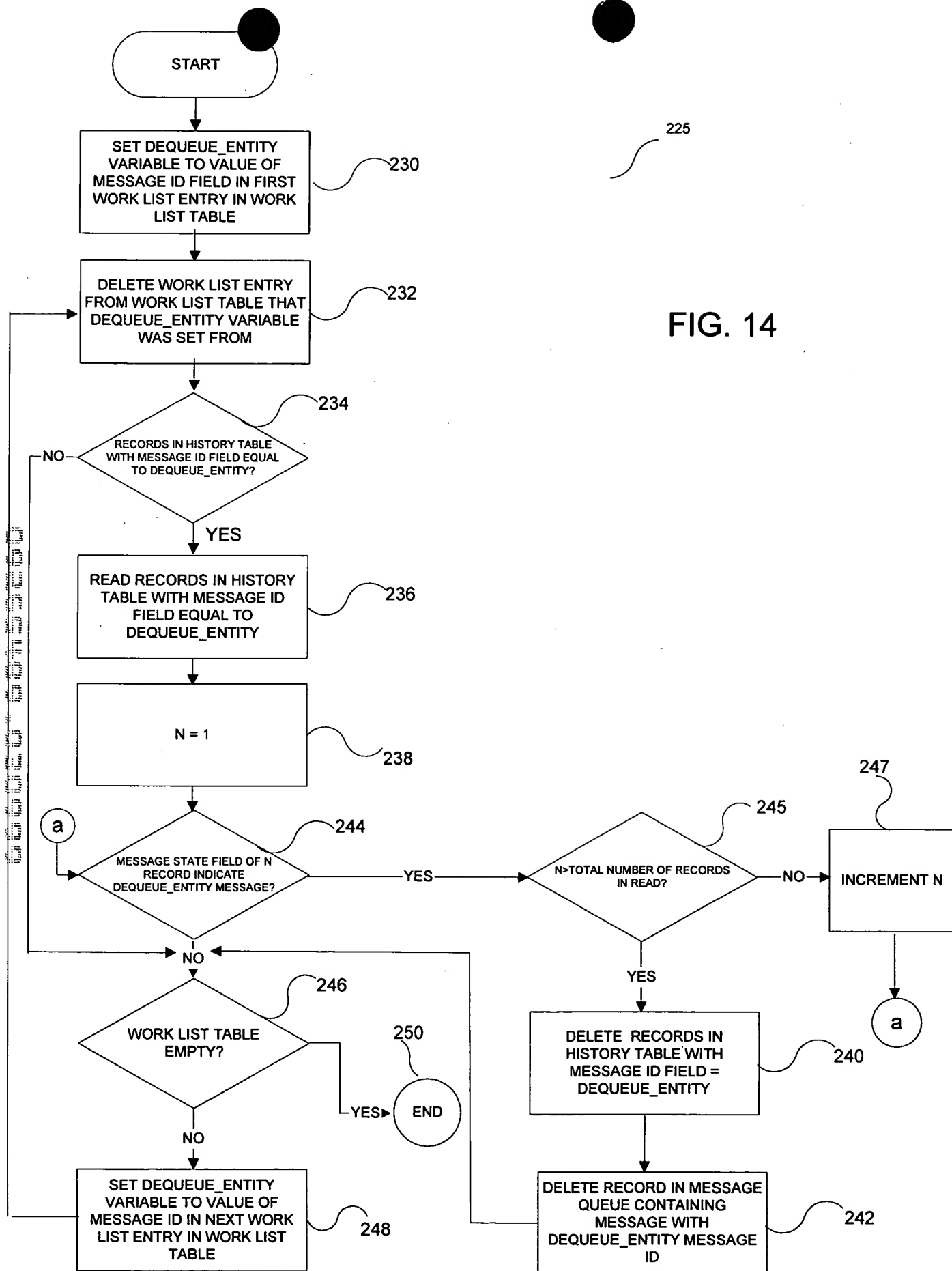
MESSAGE ID
212
MSG_X

FIG. 13B-3

MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
MSG_X	A	ENQUEUED	211
MSG_X	B	READ	218
MSG_Y	A	ENQUEUED	
MSG_Y	B	ENQUEUED	
MSG_Y	C	ENQUEUED	
MSG_Y	D	ENQUEUED	

FIG. 13B-2

FIG. 14



300			
	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
301	~	MSG_X	~
303	~	MSG_Y	~
305	~	MSG_Z	~

FIG. 15A-1

320	MESSAGE ID
	MSG_Y

FIG. 15A-3

330			
	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
337	~	MSG_X	~
338	~	MSG_Z	~

FIG. 15B-1

350	MESSAGE ID
-----	------------

FIG. 15B-3

330			
	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
337	~	MSG_X	~
338	~	MSG_Z	~

FIG. 15C-1

360	MESSAGE ID
362	MSG_X
364	MSG_X
366	MSG_Z

FIG. 15C-3

310				
	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
341	MSG_X	A	ENQUEUED	~
342	MSG_X	B	ENQUEUED	~
343	MSG_Y	C	READ	~
344	MSG_Z	A	READ	~
345	MSG_Z	B	ENQUEUED	~
346	MSG_Z	C	READ	~
347	MSG_Z	D	ENQUEUED	~

FIG. 15A-2

340				
	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
351	MSG_X	A	ENQUEUED	~
352	MSG_X	B	ENQUEUED	~
353	MSG_Z	A	READ	~
354	MSG_Z	B	ENQUEUED	~
355	MSG_Z	C	READ	~
356	MSG_Z	D	ENQUEUED	~

FIG. 15B-2

340				
	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
334	MSG_X	A	READ	~
336	MSG_X	B	READ	~
361	MSG_Z	A	READ	~
363	MSG_Z	B	ENQUEUED	~
365	MSG_Z	C	READ	~
367	MSG_Z	D	READ	~

FIG. 15C-2

370	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
	371	MSG_Z	

FIG. 15D-1

390	MESSAGE ID
392	MSG_X
394	MSG_Z

FIG. 15D-3

380	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
382	MSG_Z	A	READ	
384	MSG_Z	B	ENQUEUED	
386	MSG_Z	C	READ	
388	MSG_Z	D	READ	

FIG. 15D-2

370	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
371		MSG_Z	

FIG. 15E-1

380	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
382	MSG_Z	A	READ	
384	MSG_Z	B	ENQUEUED	
386	MSG_Z	C	READ	
388	MSG_Z	D	READ	

FIG. 15E-2

400	MESSAGE ID
402	MSG_Z

FIG. 15E-3

370	MESSAGE	MESSAGE ID	MESSAGE PROPERTIES
371		MSG_Z	

FIG. 15F-1

380	MESSAGE ID	CONSUMER ID	MESSAGE STATE	HISTORY LOG
	MSG_Z	A	READ	
	MSG_Z	B	ENQUEUED	
	MSG_Z	C	READ	
	MSG_Z	D	READ	

FIG. 15F-2

410	MESSAGE ID
-----	------------

FIG. 15F-3

458	MESSAGE ID	TIME	ACTION
458			
458			

FIG. 16

MESSAGE ID	TIME	ACTION	502
MSG_A	IMMEDIATELY	DELETE	504
MSG_B	8:00 a.m	SHOW	506
MSG_X	IMMEDIATELY	EXPIRE	508
MSG_H	1/31/99	EXPIRE	

FIG. 17

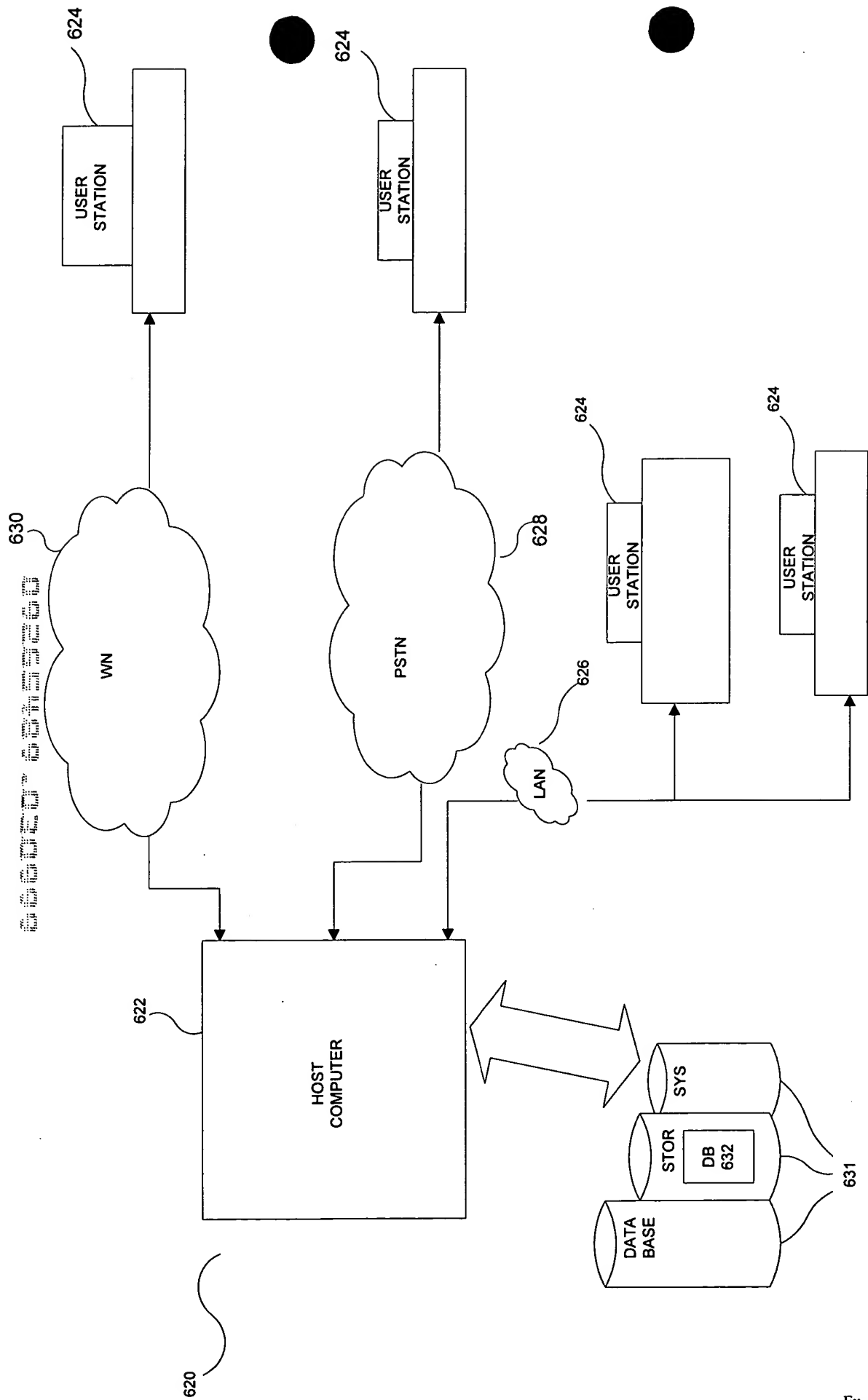


FIG. 18A

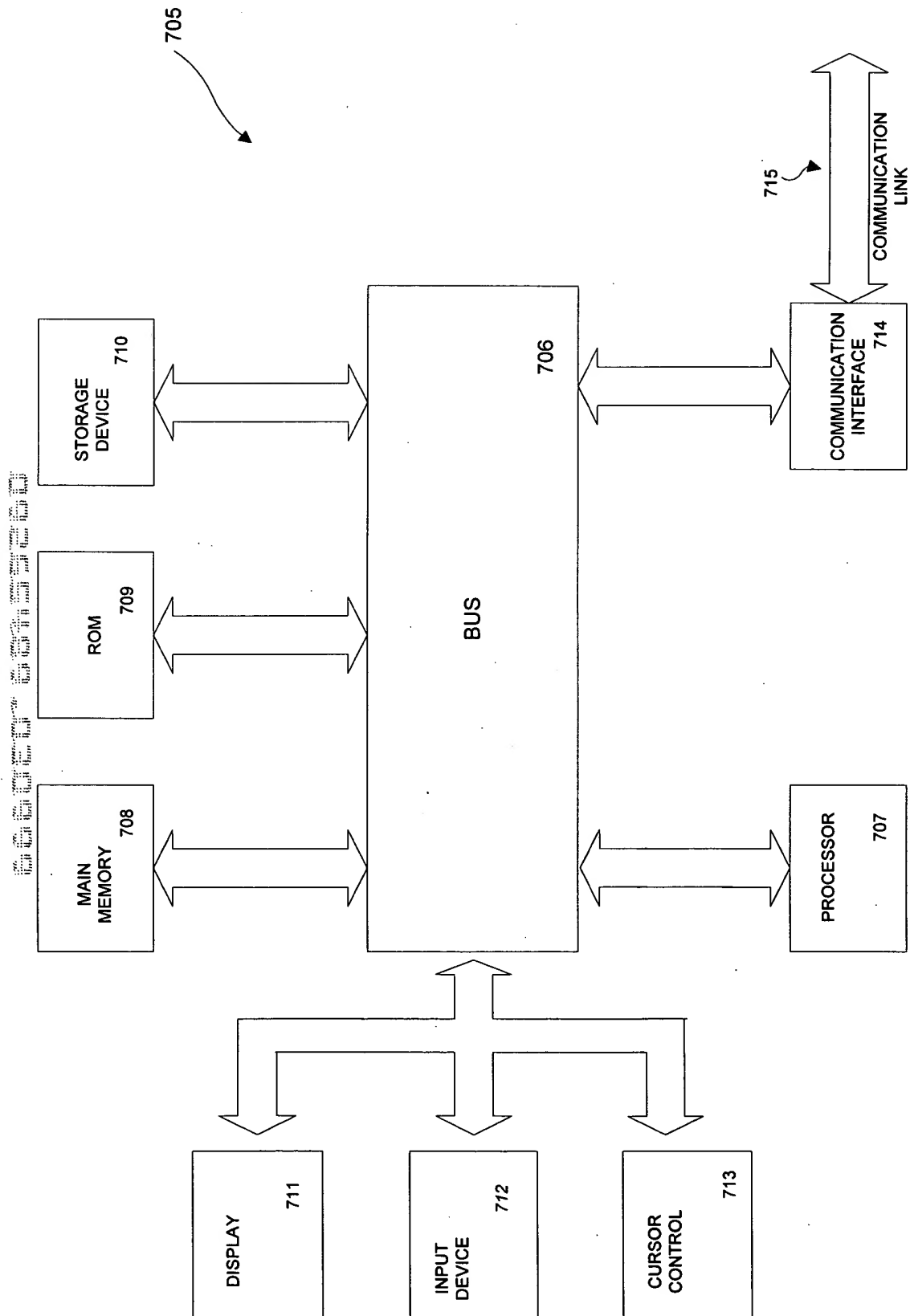


FIG. 18B